

REFERENCE VOLTAGE GENERATING CIRCUIT AND INTERNAL VOLTAGE GENERATING CIRCUIT FOR CONTROLLING INTERNAL VOLTAGE LEVEL

ABSTRACT OF THE DISCLOSURE

5 Provided are a reference voltage generating circuit and an internal voltage
generating circuit for controlling an internal voltage level, where the reference voltage
generating circuit includes a distributing unit, a clamping control unit, and a control unit;
the distributing unit has a voltage level lower than that of an external power supply
voltage in response to the external power supply voltage, and outputs via an output
10 terminal a reference voltage which varies according to an operating mode; the clamping
control unit is connected between the output terminal and a ground voltage, and clamps
the voltage level of the reference voltage at a constant level in response to a control
voltage having a voltage level which is lower than that of the reference voltage; the
control unit increases or decreases the voltage level of the reference voltage in
15 response to first and second operating mode signals; the control unit includes a first
control transistor and a second control transistor; and the reference voltage generating
circuit controls a reference voltage level according to an operating mode of the
semiconductor memory device such that the operating characteristics of the
semiconductor memory device can be improved in some operating modes and power
20 dissipation can be minimized in other operating modes.